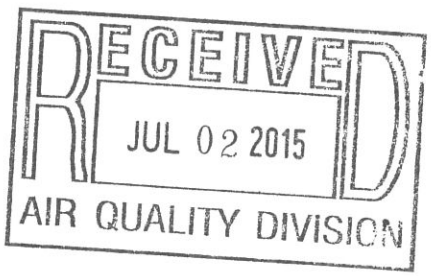
RKI Exploration & Production LLC

210 Park Avenue, Suite 900, Oklahoma City, OK 73102
405-949-2221 Fax 405-949-2223

June 30, 2015



Cole Anderson
NSR Program Manager
Department of Environmental Quality, Air Quality Division
Herschler Building, 2-E
122 West 25th Street
Cheyenne, WY 82002

Re: Air Permit Application
RKI Exploration & Production LLC
Patsy Draw Unit 38-72-33 1FH (API#: 49- 009-30289)

Dear Mr. Anderson:

Pursuant to the requirements of the Wyoming Air Quality Standards and Regulations New Source Review permitting program and the associated Chapter 6 Section 2 (C6 S2) Oil and Gas Production Facilities Permitting Guidance document dated September 2013, RKI Exploration & Production LLC submits this *C6 S2 Application for an Air Quality Permit* for the subject well.

The site consists of one oil well, 4 oil and 2 produced water storage tanks, a 2-phase separator (unfired), a heater-treater, and a dual inlet production flare. Gas is going to a sales line. Produced liquids are loaded out by truck. First day of production was April 12, 2015.

Average daily production for the new well 30 days after FDOP was 242-bbl oil, 209-bbl water, and 241-mcf gas.

Should you have any questions concerning this application, please contact me at the phone number or email address listed in the application.

Sincerely,

Jeffrey L. Ingerson
Senior Air Permitting Engineer

Reviewer HMB
cc:
Modeler
D.E.
File A0001247
IMP FID 26926

Department of Environmental Quality Air Quality Division

Permit Application Form

Is this a revision to an existing application?

Yes _____ No X

Previous Application #:

Date of Application: 6/29/2015

COMPANY INFORMATION:

Company Name: RKI Exploration & Production, LLC

Address: 210 Park Aveneue, Suite 900

City: Oklahoma City State: Oklahoma Zip Code: 73102

Country: USA Phone Number: (405) 949-2221

FACILITY INFORMATION:

Facility Name: Patsey Daw Unit 38-72-33 1FH

New Facility or Existing Facility: New

Facility Description: Oil Production Wellsite/Pad

Facility Class: Minor Operating Status: Operating

Facility Type: Production Site

For Oil & Gas Production Sites ONLY:

First Date of Production (FDOP)/Date of Modification: 4/12/2015

Does production at this facility contain H2S?* No

**If yes, contact the Division.*

API Number(s): Patsy Draw Unit 38-72-33 1FH (API# 49-009-30289)

NAICS Code: 211111 Crude Petroleum and Natural Gas Extraction

FACILITY LOCATION:

***Enter the facility location in either the latitude/longitude area or section/township/range area. Both are not required.**

Physical Address:

City: Zip Code:

State: WY County: Converse

OR

Latitude: 43.2274 Longitude: -105.50899

Quarter Quarter: nw ne Quarter:

Section: 33 Township: 38N Range: 72W

For longitude and latitude, use NAD 83/WGS84 datum and 5 digits after the decimal (i.e. 41.12345, -107.56789)

CONTACT INFORMATION:

***Note that an Environmental AND NSR Permitting Contact is required for your application to be deemed complete by the agency.**

Title: Mr. First Name: Jeffrey

Last Name: Ingerson

Company Name: RKI Exploration & Production, LLC

Job Title: Senior Air Permitting Engineer

Address: 210 Park Aveneue, Suite 700

City: Oklahoma City State: Oklahoma

Zip Code: 73102

Primary Phone No.: (405) 987-2181 E-mail: jingerson@rkixp.com

Mobile Phone No.: (405) 820-1779 Fax No.: (405) 949-2223

Contact Type: NSR Permitting Contact Start Date: March, 2014

Additional Contact Type (if needed):			
Title:	Mr.	First Name:	Charles
Last Name:	Ahn		
Company Name:	RKI Exploration & Production, LLC		
Job Title:	Manager, EHS/Regulatory		
Address:	210 Park Aveneue, Suite 900		
City:	Oklahoma City	State:	Oklahoma
Zip Code:	73102		
Primary Phone No.:	(405) 996-5771	E-mail:	cahn@rkixp.com
Mobile Phone No.:		Fax No.:	(405) 949-2223
Contact Type:	Compliance contact	Start Date:	March, 2014

FACILITY APPLICATION INFORMATION:

General Info:

Has the facility changed location or is it a new/ greenfield facility?	Yes
Has a Land Use Planning document been included in this application?	No
Is the facility located in a sage grouse core area?*	No
If the facility is in a sage grouse core area, what is the WER number?	

** For questions about sage grouse core area, contact WY Game & Fish Department.*

Federal Rules Applicability - Facility Level:

Prevention of Significant Deterioration (PSD):	No
Non-Attainment New Source Review:	No

Modeling Section:

Has the Air Quality Division been contacted to determine if modeling is required?	No
Is a modeling analysis part of this application?	No
Is the proposed project subject to Prevention of Significant Deterioration (PSD) requirements?	No
Has the Air Quality Division been notified to schedule a pre-application meeting?	No
Has a modeling protocol been submitted to and approved by the Air Quality Division?	No
Has the Air Quality Division received a Q/D analysis to submit to the respective FLMs to determine the need for an AQRV analysis?	No

Required Attachments:

Facility Map	☑
Process Flow Diagram	☑
Modeling Analysis (if applicable)	☐
Land Use Planning Document	☐
Detailed Project Description	☐
Emissions Calculations	☑

I, **Jeffrey L. Ingerson** (Responsible Official (Printed Name)) **Senior Air Permitting Engineer** (Title)

an Official Representative of the Company, state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further certify that the operational information provided and emission rates listed on this application reflect the anticipated emissions due to the operation of this facility. The facility will operate in compliance with all applicable Wyoming Air Quality Standards and Regulations.

Signature: _____ (ink) Date: 6/29/15

Specific Emission Unit Attributes:

Separator/Treater

Company Equipment ID: **HTR01**

Company Equipment Description: **Horizontal Heater Treater w/ 0.500 mmbtu burner**

Operating Status: **Operating**

Initial Construction Commencement Date:

Initial Operation Commencement Date: **3/7/2015**

Most Recent Construction/ Modification Commencement Date:

Most Recent Operation Commencement Date:

Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Reason: **Construction (Greenfield/New Facility)**

If reason is ***Reconstruction*** or ***Temporary Permit*** or ***Other,*** please explain below:

Type of Vessel: **Heater-Treater** Is Vessel Heated? **Yes**

Operating Temperature (F): **110**

Operating Pressure (psig): **50**

SCC Codes: List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

1-00-111-00

Potential Operating Schedule: Provide the operating schedule for this emission unit.

Hours/day: **24**

Hours/year: **8760**

Control Equipment: Yes

If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.

Best Available Control Technology (BACT): Was a BACT Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed BACT: _____

*If yes, attach BACT Analysis with this application.

Lowest Achievable Emission Rate (LAER): Was a LAER Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed LAER: _____

*If yes, attach LAER Analysis with this application.

Federal and State Rule Applicability:

New Source Performance Standards (NSPS): **Not Effected**

New Source Performance Standard are listed under 40 CFR 60-Standards of Performance for New Stationary Sources.

NSPS Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61): **Not Effected**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Part 61 NESHAP Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63): **Not Effected**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63

Part 63 NESHAP Subpart: _____

Prevention of Significant Deterioration (PSD): **Not Affected**

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review: **Not Affected**

These rules are found under WAQSR Chapter 6, Section 13.

Emissions Information- The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements. **HTR01**

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Criteria Pollutants:							
1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)	**0.02**			**0.004**	**0.02**	**AP-42**
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)	**0**			**0**	**0**	**AP-42**
5.)	Nitrogen Oxides (NOx)	**0.21**			**0.049**	**0.21**	**AP-42**
6.)	Carbon monoxide (CO)	**0.18**			**0.041**	**0.18**	**AP-42**
7.)	Volatile organic compounds (VOC)	**0.01**			**0.001**	**0.01**	**AP-42**
8.)	Lead (Pb)						
9.)	Total Hazrdous Air Pollutants (HAPs)	**0**			**0**	**0**	**AP-42**
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)	**0**			**0**	**0**	**AP-42**
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminents

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Pollutants:							
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Greenhouse Gases (GHGs)

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Pollutants:							
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Specific Emission Unit Attributes:

Storage Tank/Silo

Company Equipment ID: **OILTNK 01-04**
Company Equipment Description: **4 x 400 bbl Oil Storage Tanks**

Operating Status: **Operating**
Initial Construction Commencement Date:
Initial Operation Commencement Date: **4/12/2015**
Most Recent Construction/ Modification Commencement Date:

Most Recent Operation Commencement Date:

Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Reason: **Construction (Greenfield/New Facility)**

If reason is ***Reconstruction*** or ***Temporary Permit*** or ***Other,*** please explain below:

Material Type: **Liquid**
Description of Material Stored: **Crude Oil**

Capacity: **400** Units: **barrels**
Maximum Throughput: **52925** Units: **barrels/yr**
Maximum Hourly Throughput: **6** Units: **barrels/hr**
Is Tank Heated?: **No**

SCC Codes: List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

1-00-110-20

Potential Operating Schedule: Provide the operating schedule for this emission unit.
Hours/day: **24**
Hours/year: **8760**

Control Equipment: Yes

If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.

Best Available Control Technology (BACT): Was a BACT Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed BACT: _____

*If yes, attach BACT Analysis with this application.

Lowest Achievable Emission Rate (LAER): Was a LAER Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed LAER: _____

*If yes, attach LAER Analysis with this application.

Federal and State Rule Applicability:

New Source Performance Standards (NSPS): **Subject, but exempt**

New Source Performance Standard are listed under 40 CFR 60-Standards of Performance for New Stationary Sources.

NSPS Subpart: **OOOO**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61): **Not Effected**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Part 61 NESHAP Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63): **Not Effected**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63

Part 63 NESHAP Subpart: _____

Prevention of Significant Deterioration (PSD): **Not Affected**

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review: **Not Affected**

These rules are found under WAQSR Chapter 6, Section 13.

Emissions Information- The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

OILTNK 01-04

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Criteria Pollutants:							
1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)						
6.)	Carbon monoxide (CO)						
7.)	Volatile organic compounds (VOC)	**146.95**			**0.671**	**2.939**	**Tanks Program**
8.)	Lead (Pb)						
9.)	Total Hazrdous Air Pollutants (HAPs)	**1.82**			**0.008**	**0.036**	**Tanks Program**
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminents

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Greenhouse Gases (GHGs)

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Specific Emission Unit Attributes:

Storage Tank/Silo

Company Equipment ID: **WTRNK 01-02**
Company Equipment Description: **2 x 400 bbl Water Storage Tank**

Operating Status: **Operating**
Initial Construction Commencement Date:
Initial Operation Commencement Date: **4/12/2015**
Most Recent Construction/ Modification Commencement Date:

Most Recent Operation Commencement Date:

Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Reason: **Construction (Greenfield/New Facility)**

If reason is ***Reconstruction*** or ***Temporary Permit*** or ***Other,*** please explain below:

Material Type: **Liquid**
Description of Material Stored: **Produced Water (1% Oil Carryover)**

Capacity: **400** Units: **barrels**
Maximum Throughput: **365** Units: **barrels/yr**
Maximum Hourly Throughput: **1** Units: **barrels/hr**
Is Tank Heated?: **No**

SCC Codes: List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

1-00-110-20

Potential Operating Schedule: Provide the operating schedule for this emission unit.
Hours/day: **24**
Hours/year: **8760**

Control Equipment: Yes

If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.

Best Available Control Technology (BACT): Was a BACT Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed BACT: _____

*If yes, attach BACT Analysis with this application.

Lowest Achievable Emission Rate (LAER): Was a LAER Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed LAER: _____

*If yes, attach LAER Analysis with this application.

Federal and State Rule Applicability:

New Source Performance Standards (NSPS): **Subject, but exempt**

New Source Performance Standard are listed under 40 CFR 60-Standards of Performance for New Stationary Sources.

NSPS Subpart: **OOOO**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61): **Not Effected**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Part 61 NESHAP Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63): **Not Effected**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63

Part 63 NESHAP Subpart: _____

Prevention of Significant Deterioration (PSD): **Not Affected**

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review: **Not Affected**

These rules are found under WAQSR Chapter 6, Section 13.

Emissions Information- The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements. **WTRTNK 01-02**

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Criteria Pollutants:							
1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)						
6.)	Carbon monoxide (CO)						
7.)	Volatile organic compounds (VOC)	**1.013**			**0.005**	**0.02**	**Tanks Program**
8.)	Lead (Pb)						
9.)	Total Hazrdous Air Pollutants (HAPs)	**0.01**			**0**	**0**	**Tanks Program**
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminents

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Greenhouse Gases (GHGs)

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Specific Emission Unit Attributes:

Loading/Unloading/Dump

Company Equipment ID: **1FH OIL LOAD**
Company Equipment Description: **Oil Loadout Facility**

Operating Status: **Operating**
Initial Construction Commencement Date:
Initial Operation Commencement Date: **4/12/2015**
Most Recent Construction/ Modification Commencement Date:

Most Recent Operation Commencement Date:

Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Reason: **Construction (Greenfield/New Facility)**

If reason is ***Reconstruction*** or ***Temporary Permit*** or ***Other,*** please explain below:

Type of Material: **Liquid**
Material Description: **Crude Oil**

Maximum Annual Throughput:	**52925**	Units:	barrels/yr
Maximum Hourly Throughput:	**240**	Units:	barrels/hr

Detailed Description of Loading/Unloading/Dump Source: **Crude oil is loaded from storage tanks into tanker trucks for transport to market. Tanker truck vapors are returned to storage tanks for destruction in the vapor combustor (FLR2).**

SCC Codes: List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

1-00-112-01

Potential Operating Schedule: Provide the operating schedule for this emission unit.

Hours/day: **24**
Hours/year: **8760**

Control Equipment: Yes

If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.

Best Available Control Technology (BACT): Was a BACT Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed BACT: _____

*If yes, attach BACT Analysis with this application.

Lowest Achievable Emission Rate (LAER): Was a LAER Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed LAER: _____

*If yes, attach LAER Analysis with this application.

Federal and State Rule Applicability:

New Source Performance Standards (NSPS): **Not Effected**

New Source Performance Standard are listed under 40 CFR 60- Standards of Performance for New Stationary Sources.

NSPS Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61): **Not Effected**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Part 61 NESHAP Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63): **Not Effected**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63

Part 63 NESHAP Subpart: _____

Prevention of Significant Deterioration (PSD): **Not Affected**

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review: **Not Affected**

These rules are found under WAQSR Chapter 6, Section 13.

Emissions Information- The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

Oil Loadout

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Criteria Pollutants:							
1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)						
6.)	Carbon monoxide (CO)						
7.)	Volatile organic compounds (VOC)	**3.6**			**0.0164**	**0.07**	**AP-42**
8.)	Lead (Pb)						
9.)	Total Hazrdous Air Pollutants (HAPs)						
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminents

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Greenhouse Gases (GHGs)

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Specific Emission Unit Attributes:

Loading/Unloading/Dump

Company Equipment ID: **1FH WTR LOAD**

Company Equipment Description: **Produced Water Loadout Facility**

Operating Status: **Operating**

Initial Construction Commencement Date:

Initial Operation Commencement Date: **4/12/2015**

Most Recent Construction/ Modification Commencement Date:

Most Recent Operation Commencement Date:

Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Reason: **Construction (Greenfield/New Facility)**

If reason is ***Reconstruction*** or ***Temporary Permit*** or ***Other,*** please explain below:

Type of Material: **Liquid**

Material Description: **Produced Water w/ 1% Crude Oil**

Maximum Annual Throughput:	**365**	Units:	barrels/yr
Maximum Hourly Throughput:	**240**	Units:	barrels/hr

Detailed Description of Loading/Unloading/Dump Source: **Crude oil is loaded from storage tanks into tanker trucks for transport to market. Tanker truck vapors are returned to storage tanks for destruction in the vapor combustor (FLR2).**

SCC Codes: List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

1-00-112-01

Potential Operating Schedule: Provide the operating schedule for this emission unit.

Hours/day: **24**

Hours/year: **8760**

Control Equipment: Yes

If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.

Best Available Control Technology (BACT): Was a BACT Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed BACT: _____

*If yes, attach BACT Analysis with this application.

Lowest Achievable Emission Rate (LAER): Was a LAER Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed LAER: _____

*If yes, attach LAER Analysis with this application.

Federal and State Rule Applicability:

New Source Performance Standards (NSPS): **Not Effected**

New Source Performance Standard are listed under 40 CFR 60-Standards of Performance for New Stationary Sources.

NSPS Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61): **Not Effected**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Part 61 NESHAP Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63): **Not Effected**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63

Part 63 NESHAP Subpart: _____

Prevention of Significant Deterioration (PSD): **Not Affected**

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review: **Not Affected**

These rules are found under WAQSR Chapter 6, Section 13.

Emissions Information- The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

Water Loadout

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Criteria Pollutants:							
1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)						
6.)	Carbon monoxide (CO)						
7.)	Volatile organic compounds (VOC)	**0.02**			**0.0001**	**0**	**AP-42**
8.)	Lead (Pb)						
9.)	Total Hazrdous Air Pollutants (HAPs)						
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminents

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Greenhouse Gases (GHGs)

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Control Equipment:

Flare/Combustor

Manufacturer:	**Steffes**	Date Installed:	**4/12/2015**
Model Name and Number:	**LP Flare SVG-3**	Company Control Equipment ID:	**FLR01**
Company Control Equipment Description:	**3" diameter x 24' high LP Flare Stack**		

Pollutant(s) Controlled:	☐ CO	☐ NOx	☐ Pb	☐ SO2	☑ **VOC**	☐ PM	
☐ PM (FIL)	☐ PM Condensible	☐ PM 10 (FIL)		☐ PM 2.5 (FIL)		☐ PM 10	☐ PM 2.5
☑ Other: **HAPs**							

Design Control Efficiency (%):	**98**	Capture Efficiency (%):	**100**
Operating Control Efficiency (%):	**98**		
Flare Type:	**Elevated- Open**	Elevated Flare Type:	**Non-Assisted**
Ignition Device:	**Yes**	Flame Presence Sensor:	**Yes**
Inlet Gas Temp (F):	**100**	Flame Presence Type:	**Thermocouple**
Gas Flow Rate (acfm):	**5.1**	Outlet Gas Temp (F):	**1850**

☑ This is the only control equipment on this air contaminant source

If not, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel

List all other emission units that are also vented to this control equipment: **Oil & Water Tanks, Loadout Facilities**

List all release point IDs associated with this control equipment: **Flare Stack 01**

Emissions Information- The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements. **FLR01**

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Criteria Pollutants:							
1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)	**0**			**0**	**0**	**Other**
5.)	Nitrogen Oxides (NOx)	**0.43**			**0.1**	**0.43**	**Other**
6.)	Carbon monoxide (CO)	**0.11**			**0.02**	**0.11**	**Other**
7.)	Volatile organic compounds (VOC)	**2.17**			**0.5**	**2.17**	**Other**
8.)	Lead (Pb)						
9.)	Total Hazrdous Air Pollutants (HAPs)	**0.03**			**0.01**	**0.03**	**Other**
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)	**0**			**0**	**0**	**Other**
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminents

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Greenhouse Gases (GHGs)

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Control Equipment:

Flare/Combustor

Manufacturer:	**Steffes**	Date Installed:	**4/12/2015**
Model Name and	**HP Flare**	Company Control	
Number:	**SHP-6**	Equipment ID:	**FLR02**
Company Control Equipment Description:	**6" diameter x 24' high HP Flare Stack (Emergency Use)**		

Pollutant(s) Controlled:	☐ CO	☐ NOx	☐ Pb	☐ SO2	☑ **VOC**	☐ PM	
☐ PM (FIL)	☐ PM Condensible	☐ PM 10 (FIL)		☐ PM 2.5 (FIL)		☐ PM 10	☐ PM 2.5
☑ Other: **HAPs**							

Design Control Efficiency (%):	**98**	Capture Efficiency (%):	**100**
Operating Control Efficiency (%):	**98**		
Flare Type:	**Elevated- Open**	Elevated Flare Type:	**Non-Assisted**
Ignition Device:	**Yes**	Flame Presence Sensor:	**Yes**
Inlet Gas Temp (F):	**100**	Flame Presence Type:	**Thermocouple**
Gas Flow Rate (acfm):	**100**	Outlet Gas Temp (F):	**1850**

☑ This is the only control equipment on this air contaminant source

If not, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel

List all other emission units that are also vented to this control equipment: **Heater Treater for 1FH during emergency**

List all release point IDs associated with this control equipment: **Flare Stack 02**

Emissions Information- The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

1FH FLR02
Used 876 hr/yr

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Criteria Pollutants:							
1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)	**0**			**0**	**0**	**Other**
5.)	Nitrogen Oxides (NOx)	**0.54**			**1.22**	**0.54**	**Other**
6.)	Carbon monoxide (CO)	**0.13**			**0.31**	**0.13**	**Other**
7.)	Volatile organic compounds (VOC)	**1.31**			**2.99**	**1.31**	**Other**
8.)	Lead (Pb)						
9.)	Total Hazrdous Air Pollutants (HAPs)	**0.06**			**0.14**	**0.06**	**Other**
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)	**0**			**0**	**0**	**Other**
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminents

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Pollutants:							
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Greenhouse Gases (GHGs)

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Pollutants:							
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Specific Emission Unit Attributes:

Fugitives

Company Equipment ID: **FUG01**

Company Equipment Description: **Fugitive Emissions: Well 1FH**

Operating Status: **Operating**

Initial Construction Commencement Date:

Initial Operation Commencement Date: **4/12/2015**

Most Recent Construction/ Modification Commencement Date:

Most Recent Operation Commencement Date:

Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Reason: **Construction (Greenfield/New Facility)**

If reason is ***Reconstruction*** or ***Temporary Permit*** or ***Other,*** please explain below:

Type of Fugitive Emission: **Fugitive Leaks at O&G**

SCC Codes: List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

1-00-115-00

Potential Operating Schedule: Provide the operating schedule for this emission unit.

Hours/day: **24**

Hours/year: **8760**

Control Equipment: No

If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.

Best Available Control Technology (BACT): Was a BACT Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed BACT: _____

*If yes, attach BACT Analysis with this application.

Lowest Achievable Emission Rate (LAER): Was a LAER Analysis completed for this emission unit?

☐ Yes ☑ No

Pollutant: _____

Proposed LAER: _____

*If yes, attach LAER Analysis with this application.

Federal and State Rule Applicability:

New Source Performance Standards (NSPS): **Not Effected**

New Source Performance Standard are listed under 40 CFR 60-Standards of Performance for New Stationary Sources.

NSPS Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61): **Not Effected**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Part 61 NESHAP Subpart: _____

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63): **Not Effected**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63

Part 63 NESHAP Subpart: _____

Prevention of Significant Deterioration (PSD): **Not Affected**

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review: **Not Affected**

These rules are found under WAQSR Chapter 6, Section 13.

Emissions Information- The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements. **FUG01**

			Efficiency Standards				
		Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Criteria Pollutants:							
1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)						
6.)	Carbon monoxide (CO)						
7.)	Volatile organic compounds (VOC)	**1.221**			**0.279**	**1.221**	**AP-42**
8.)	Lead (Pb)						
9.)	Total Hazrdous Air Pollutants (HAPs)	**0.003**			**0.001**	**0.003**	**AP-42**
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminents

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Greenhouse Gases (GHGs)

Pollutants:		Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards: Potential to Emit (PTE)	Efficiency Standards: Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
1.)							
2.)							
3.)							
4.)							
5.)							
6.)							
7.)							
8.)							

Release Point Information:

Complete the table below for ***each*** release point. Please include release point information for each emission unit. Multiple attachments may be necessary. A release point is a point at which emissions from an emission unit are released into the ambient (outside)air. List each individual release point on a separate pair of lines (release point ID and description). ***For longitude and latitude, use NAD 83/WGS84 datum and 5 digits after the decimal (i.e. 41.12345, -107.56789)***

Stack Release Point Information		
Company Release Point ID: **FLR02**	Release Point Type:	**Vertical**
	Release Point Latitude:	**43.2274**
	Release Point Longitude:	**-105.50899**
Company Release Point Description: **HP Heater Treater Emergemcy Flare** (used 10% ... 876 hrs/yr)	Base Elevation (ft):	**4874**
	Stack Height (ft):	**24**
	Stack Diameter (ft):	**0.5**
	Exit Gas Velocity (ft/s):	
	Exit Gas Temp (F):	**1850**
	Exit Gas Flow Rate (acfm):	
Company Release Point ID: **FLR01**	Release Point Type:	**Vertical**
	Release Point Latitude:	**43.2274**
	Release Point Longitude:	**-105.50899**
Company Release Point Description: **LP Oil & Water Tank Flare** 1PH 1-4 Oil Tank Vents 1PH 1-2 Water Tank Vents	Base Elevation (ft):	**4874**
	Stack Height (ft):	**24**
	Stack Diameter (ft):	**0.25**
	Exit Gas Velocity (ft/s):	
	Exit Gas Temp (F):	**1850**
	Exit Gas Flow Rate (acfm):	
Company Release Point ID:	Release Point Type:	
	Release Point Latitude:	
	Release Point Longitude:	
Company Release Point Description:	Base Elevation (ft):	
	Stack Height (ft):	
	Stack Diameter (ft):	
	Exit Gas Velocity (ft/s):	
	Exit Gas Temp (F):	
	Exit Gas Flow Rate (acfm):	
Company Release Point ID:	Release Point Type:	
	Release Point Latitude:	
	Release Point Longitude:	
Company Release Point Description:	Base Elevation (ft):	
	Stack Height (ft):	
	Stack Diameter (ft):	
	Exit Gas Velocity (ft/s):	
	Exit Gas Temp (F):	
	Exit Gas Flow Rate (acfm):	

Complete the table below for each fugitive (area, volume, line) release point. List each individual release point on a separate line.

Fugitive Release Point Information	
Company Release Point ID: **FUG01**	Release Point Latitude: **43.2274** Release Point Longitude: **-105.50899** Release Height (ft): **4874**
Company Release Point Description:	
Company Release Point ID:	Release Point Latitude: Release Point Longitude: Release Height (ft):
Company Release Point Description:	
Company Release Point ID:	Release Point Latitude: Release Point Longitude: Release Height (ft):
Company Release Point Description:	
Company Release Point ID:	Release Point Latitude: Release Point Longitude: Release Height (ft):
Company Release Point Description:	

Patsy Draw Unit 38-72-33 1FH

WDEQ Documents

FORM 3
Nov. 2012

STATE OF WYOMING
OIL AND GAS CONSERVATION COMMISSION
P. O. Box 2640
Casper Wyoming 82602

WELL COMPLETION OR RECOMPLETION REPORT AND LOG (SUBMIT SINGLE, DUPLICATE ON STATE LAND)

9. API WELL NO. **49-009-30289**

12. COUNTY: Converse | 13. STATE: Wyoming

5. STATE LEASE SERIAL NO.:

1a. Type of Well: [X] Oil Well [ ] Gas Well [ ] Dry [ ] CBM Other:

b. Type of Completion: [ ] New Well [ ] Workover [ ] Deepen [ ] Plug Back [ ] Diff. Resvr. [ ] Initial [X] Final Other

7. UNIT OR COMMUNITIZATION AGREEMENT: WYW180208X

2. Name of Operator: RKI Exploration and Production, LLC

8. FARM OR LEASE NAME: **Patsy Draw Unit 38-72 33**

3. Address: 210 Park Avenue, Ste 700, Oklahoma City, OK 73012

3a. Phone No. *(include area code)*: 405.987.2229 Email: gsmith@rkixp.com

8a. WELL No.: **1FH**

4. Location of Well *(Report location clearly and in accordance with WOGCC requirements with footages and qtr qtrs.)*

At surface		Sec 33 NWN	1335'	FNL	2135'	FEL	NAD 83	Lat. 43.227400	Long.	105.508996
Top prod. Int.	TVD 11636'	Sec 33					NAD			
	MD 12071'	NWNE	553'	FNL	2096'	FEL	83	Lat. 43.229550	Long.	105.508835
At total depth	TVD 11623'	Sec 28					NAD			
	MD 16250'	SWNE	1730'	FNL	2051'	FEL	83	Lat. 43.240995	Long.	105.508767

10. FIELD NAME: WC

11. SEC. T, R, M., OR BLOCK AND SURVEY OR AREA: 33 T 38N R 72W

36. MULTIPLE COMPL.? DOCKET OR AA. DATE:

14. Date Spudded: 2/1/2015

15. Date T.D. Reached: 2/24/2015

16. Date Completed: [ ] D & A 4/12/2015 [X] Ready to Prod.

17. ELEVATIONS (DF, RKB, RT, GR, etc.)*: 4874' GR

18. Total Depth: MD 16250' TVD 11623'

19. Plug back T.D.: MD 15993' TVD 11620'

20. Depth Bridge Plug Set: MD (Requires Prior Approval) TVD

21. Type Electric & other Logs Run (Submit 1 copy and 1 LAS of each), Cased and Open Hole, Btm Hole Press Survey: Cement, TVD, MD

22. Was well cored? [X] No [ ] Yes (Submit analysis)
Was DST run? [X] No [ ] Yes (Submit report)
Directional Survey? [ ] No [X] Yes (Submit copy, w/ cert.)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/ Grade	Wt. (#/ft.)	Top (MD)	Bottom(MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (Bbl)	Cement Top*	Amount Pulled
13-1/2"	10-3/4" J-55	40 1/2	0	1782'		745 Sks Class G	260	0	
8-3/4"	7" P-110	32	0	10828'		864 Sks Class G	227	0	
6"	4-1/2" P-110	13 1/2	0	16100'		440 Sks Class G	127	7340'	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2-7/8"	11471'		4.5"		11450'			

25. Producing Intervals / 26. Perforation Record

	Formation	Top	Bottom	Perforated Inteval	Size	No. of Holes	Perf. Status
A)	Frontier	12071'	15943'	15791' 15943'	2-3/4"	32	Active
				15543' 15695'	2-3/4"	32	Active
				15295' 15447'	2-3/4"	32	Active
				15047' 15199'	2-3/4"	32	Active
				14799' 14951'	2-3/4"	32	Active
				14551' 14703'	2-3/4"	32	Active
				14303' 14455'	2-3/4"	32	Active
				14055' 14207'	2-3/4"	32	Active
				13807' 13959'	2-3/4"	32	Active
				13559' 13711'	2-3/4"	32	Active
				13311' 13463'	2-3/4"	32	Active
				13063' 13215'	2-3/4"	32	Active
				12815' 12967'	2-3/4"	32	Active
				12567' 12719'	2-3/4"	32	Active
				12319' 12471'	2-3/4"	32	Active
				12071' 12223'	2-3/4"	32	Active

Summary: Total Frac Stages: 16 Total Slurry (bbls): 72,788 Total Proppant (lbs) 4,028,620

28. Production- Interval A 25. Formation: Frontier Productive Interval: 12071' - 15943'

Date First Produced	Test Date	Hours Tested	Test Production	Oil Bbl	Gas MCF	Water Bbl	Oil Gravity Corr. API	Gas Gravity	Flowback Disposal
4/12/2015	4/14/2015	24	→	508	559.5	1782	39	0.86996	3,639 BBLS
Choke Size	**Tbg.Press**	**Csg Press.**	**24 Hr. Rate**	**Oil Bbl**	**Gas MCF**	**Water Bbl**	**Gas: Oil Ratio**	**Res. Press.**	**Well**
21/64	SI N/A	2300	→	508	559.5	1782	1101.38	5230	Producing-ESP

** See instructions and spaces for additional data on page 2*

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*	Test Witness:
Sold	

30. Summary of Porous Zones (include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers:

Frontier

Formation	Top	Bottom	Descriptions Contents, Etc.	Name	TVD
Frontier	11794'	15943'	Oil, Gas, Water	Fox Hills	6560'
				Lewis	6661'
				Teckla	7235'
				Teapot	7879'
				Parkman	8184'
				Pierre	8818'
				Sussex	9482'
				Niobrara	10888'
				Frontier	11578'

32. Additional remarks; include plugging procedure (Req. prior approval):

Flowback Disposal Totals = 16,876 with 6,300 into Riehle 37-70 3-1SWD, 4,444 into Riehle 37-70 3-2SWD, 6,132 into Riehle 37-70 3-3SWD

33. Indicate which items have been attached by placing a check in the appropriate boxes:

- [X] Electrical/ Mechanical Logs (1 full set) Cased & Open hole.
- [ ] Geologic Report
- [ ] DST Report
- [X] Directional Survey w/ Certification
- [ ] Sundry Notice for plugging and cementing
- [ ] Core Analysis
- [ ] Press. Survey
- [X] Other: Plat,Form 10,Cement,BHL

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (please print) Gwyn Smith Title Sr. Regulatory Analyst

Signature Date 5/15/2015

INSTRUCTIONS

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys should be attached hereto, to the extent required by applicable Federal and or State laws and regulations. All attachments should be listed on this form, see space 33.

Space 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Please note all Lat./ Longs. In NAD 83. Calculate all "Top of Producing Intervals" and "BHL" first as distance from the section corner, second as the Lat. /Long. Spacing orders are based on a well location in a section. Well locations must match the surveyed footages.

Space 17: Indicate elevation used for depth measurements given in other spaces on this form and in any attachments.

Space 23: " Sacks Cement " : Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool. Show how reported top(s) of cement were determined, i.e. circulated (CIR), or calculated (CAL), or cement bond log (CBL), or temperature survey (TS).

Spaces 25 and 28: If this well is completed for commingled production from more than one pool (multiple zone completion), state in space 25 and 26, and in space 25 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for the pools reported in space 28 through 28c. Submit a separate completion report on this form for each pool separately produced, (not commingled).

Space 27: If a well was fracture treated or stimulated, all data required in Chapter 3, Section 45 must be filed with this Completion Report.

Space 27: If a well was fracture treated or stimulated, provide Summary Data for # of Stages, Total Slurry, Total Proppant

Space 28: Provide well test data for each interval tested or stimulated and flowed.

Space 32: Provide frac **flowback disposal volumes and handling and disposal site**.

Space 32: Provide final annulus casing pressure.

Space 32 or Attachment: Provide all Stimulation Chemicals by Name, Type, Volumes and CAS #s.

Attach a wellbore diagram whenever possible.

Form 10
DECEMBER, 2000

STATE OF WYOMING
OIL AND GAS CONSERVATION COMMISSION
Office of State Oil and Gas Supervisor
P.O. Box 2640
Casper, Wyoming 82602

PRODUCTION TEST AND GAS-OIL RATIO REPORT

OPERATOR	API NUMBER
RKI EXPLORATION AND PRODUCTION	49-009-30289
ADDRESS 210 PARK AVE., SUITE 900 OKLAHOMA CITY, OK 73012	WELL NAME & NUMBER PATSY DRAW UNIT 38-72 33-1FH

LEASE NAME	RESERVOIR	FIELD
PATSY DRAW UNIT	FRONTIER	WILDCAT

LOCATION,(quarter-quarter and footages): LATITUDE: 43.2274° LONGITUDE: -105.508996°
NW/NE 1,335' FNL 2,135' FEL Sec. 33 , Twp. 38 N , Rge. 72 W

COUNTY: CONVERSE

TEST DATA

START OF TEST-DATE	TIME	END OF TEST-DATE	TIME	DURATION OF TEST
4/14/2015	5:00 AM	4/15/2015	5:00 AM	24 HRS

TUBING PRESSURE	CASING PRESSURE	SEPARATOR PRESSURE	SEPARATOR TEMP.	CHOKE SIZE
N/A	2,300	155	125°F	21/64

OIL PRODUCTION DURING TEST	GAS PRODUCTION DURING TEST	WATER PRODUCTION DURING TEST
508.00 bbls.	559.50 MCF	1,782.00 bbls.

OIL GRAVITY	PRODUCING METHOD (Flowing, pumping, gas lift, etc.)
39 *API	FLOWING

GAS PRODUCTION

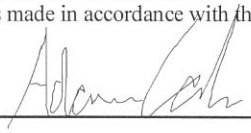
METER MANUFACTURER					ORIFICE WELL TESTER	X
TOTAL FLOW	Flange Tap	X	PIPE TAP		L-10	CRITICAL FLOW PROVER

ORIFICE DIAMETER	PIPE DIAMETER (Inside dia.)	ORIFICE DIAMETER
1	2.067	1
DIFFERENTIAL PRESSURE RANGE	MAX. STATIC PRESSURE RANGE	PIPE DIAMETER
0-400	0-1500	2
GAS GRAVITY (Air-1.0)	FLOWING,TEMPERATURE	GAS GRAVITY (Air-1.0)
0.86996 Meas. X Est	115.5°F	0.86996 Meas. X Est
DIFFERENTIAL NO FLOW READING	STATIC NO FLOW READING	24 HOUR COEFFICIENT
-0.09	12.456	N/A
DIFFERENTIAL	STATIC	PRESSURE: (Indicate Units)
190.3	42.4	PSIG

TEST RESULTS

DAILY OIL	DAILY WATER	DAILY GAS	GAS- OIL RATIO
508 bbls.	1,782 bbls.	559.5 MCF	1101.38 SCF/STB

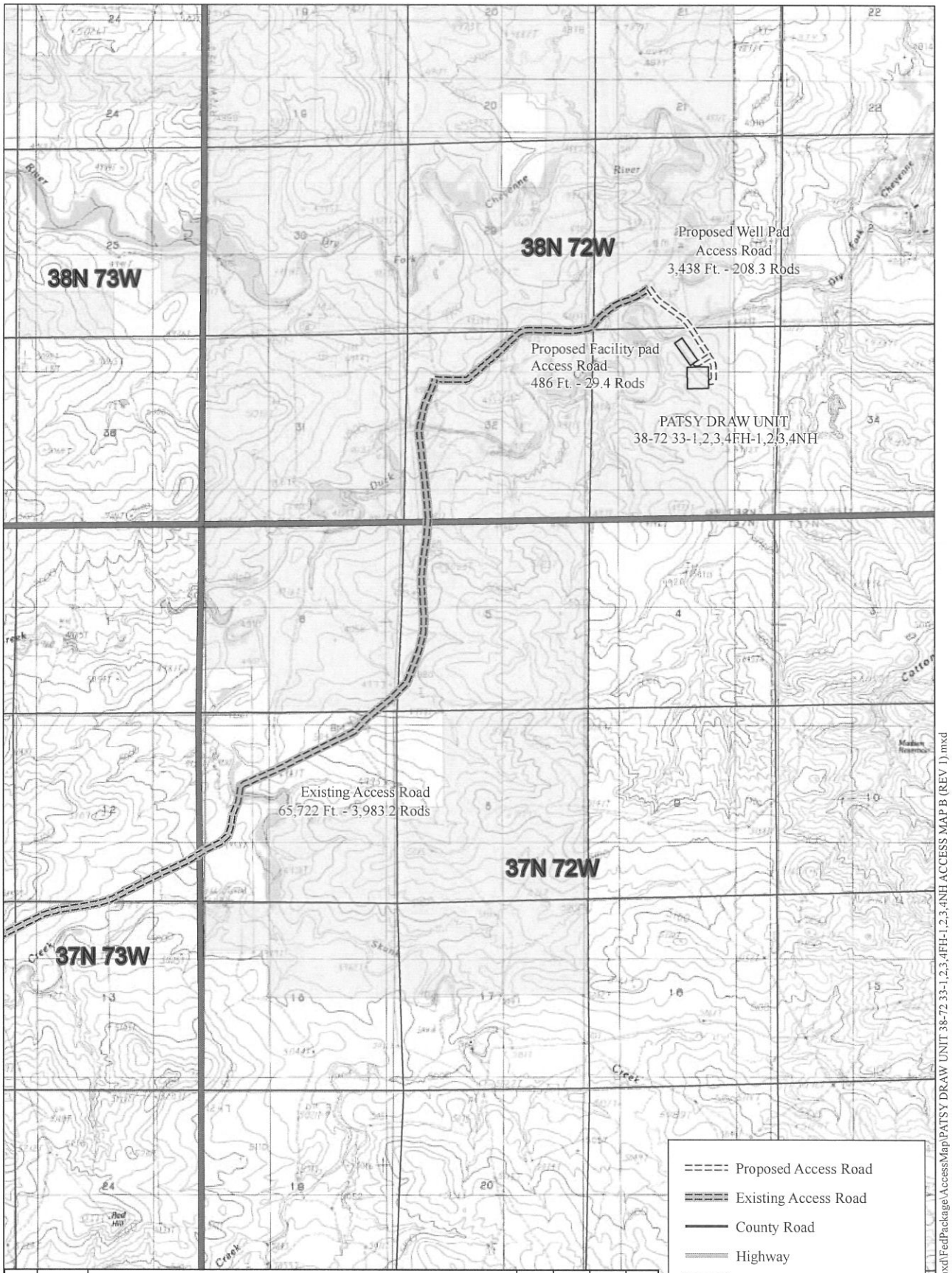
I hereby, swear or affirm that the statements herein made are complete and correct, ancl that the test described was made in accordance with the rules, regulations and Instructions of the Wyoming Oil and Gas Conservation Commission.

SIGNATURE 

TITLE SR. PRODUCTION ENGINEER

DATE 5/14/2015

SUBMIT I COPY ONLY



Rev.	Date	Description	By	Proj. Engr.	Checked	Rev. Request
1	12/23/2014	Updated access road	ZRH	OTM	OTM	
0	11/21/2014	Issued for client review	ZRH	OTM	DLH	

Client:
RKI Exploration & Production, LLC
210 Park Ave
Suite 900
Oklahoma City, OK 73102

Prepared By:
Wood Group PSN
Project & Asset Management
2615 Aviation Dr
Sheridan, WY 82801
(307) 675-6400 www.woodgroup.com

ACCESS MAP B
PATSY DRAW UNIT
38-72 33-1,2,3,4FH-1,2,3,4NH
SEC 33, T38N, R72W
CONVERSE COUNTY, WY
0 750 1,500 3,000 Feet

N

Land Agent: R. Briscoe	743918	Drawn: ZRH	Checked: OTM	Approval: BC	Date: 12/23/2014	Sheet: 1 OF 1	Rev: 1

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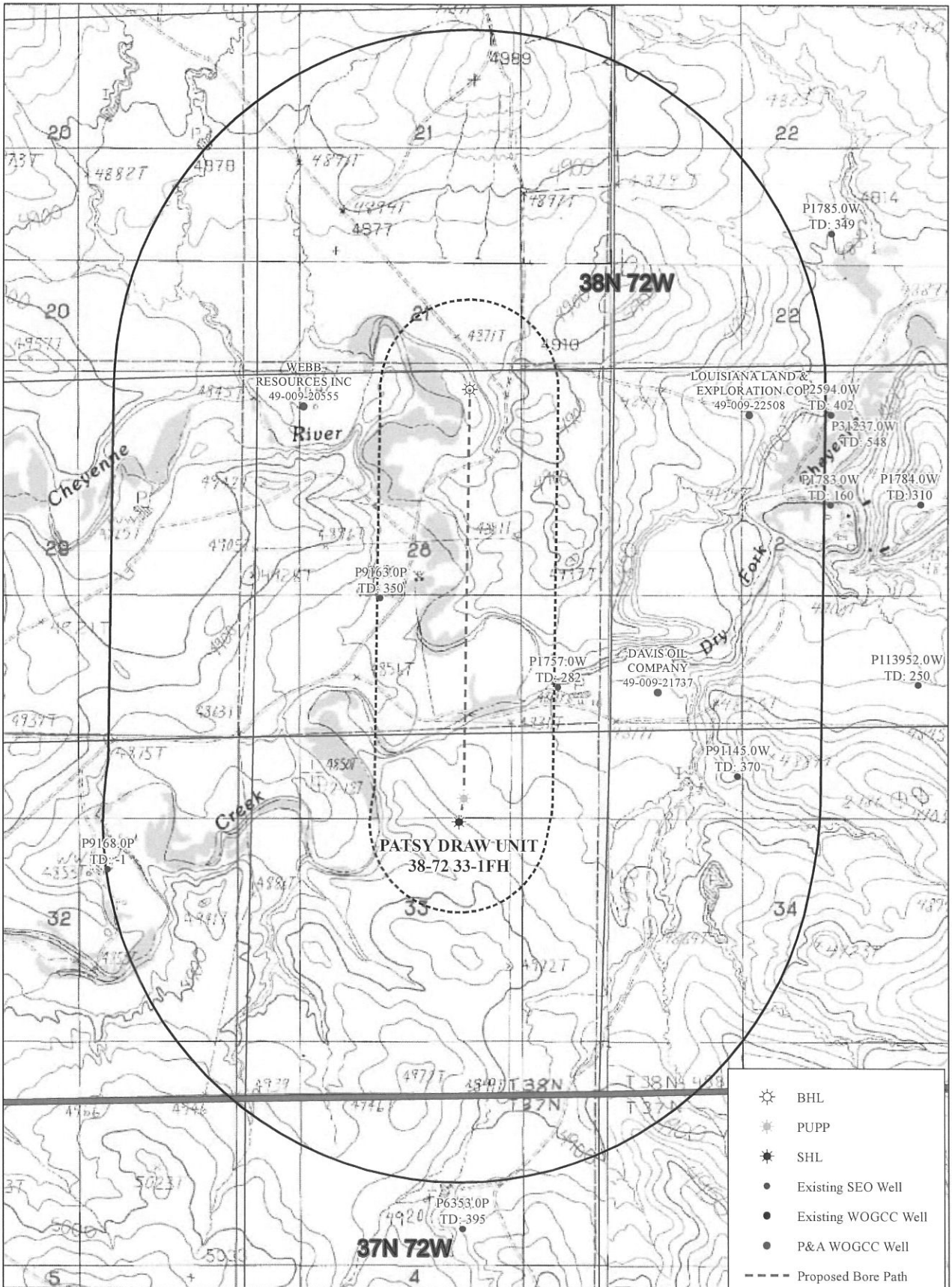


Rev.	Date	Description	By	Proj. Engr.	Checked	Rev. Request
1	11/25/2014	Updated Bore Path	MDR	OTM	DLH	
0	11/21/2014	Issued for client review	ZRH	OTM	DLH	

Client:
RKI Exploration & Production, LLC
210 Park Ave
Suite 900
Oklahoma City, OK 73102

Prepared By:
Wood Group PSN
Project & Asset Management
2615 Aviation Dr
Sheridan, WY 82801
(307) 675-6400 www.woodgroup.com

MAP C
PATSY DRAW UNIT
38-72 33-1FH
SEC 33, T38N, R72W
CONVERSE COUNTY, WY
0 500 1,000 2,000 Feet

N

Land Agent: R. Briscoe	743918	Drawn: MDR	Checked: DLH	Approval: BC	Date: 11/21/2014	Sheet: 1 OF 1	Rev: 1

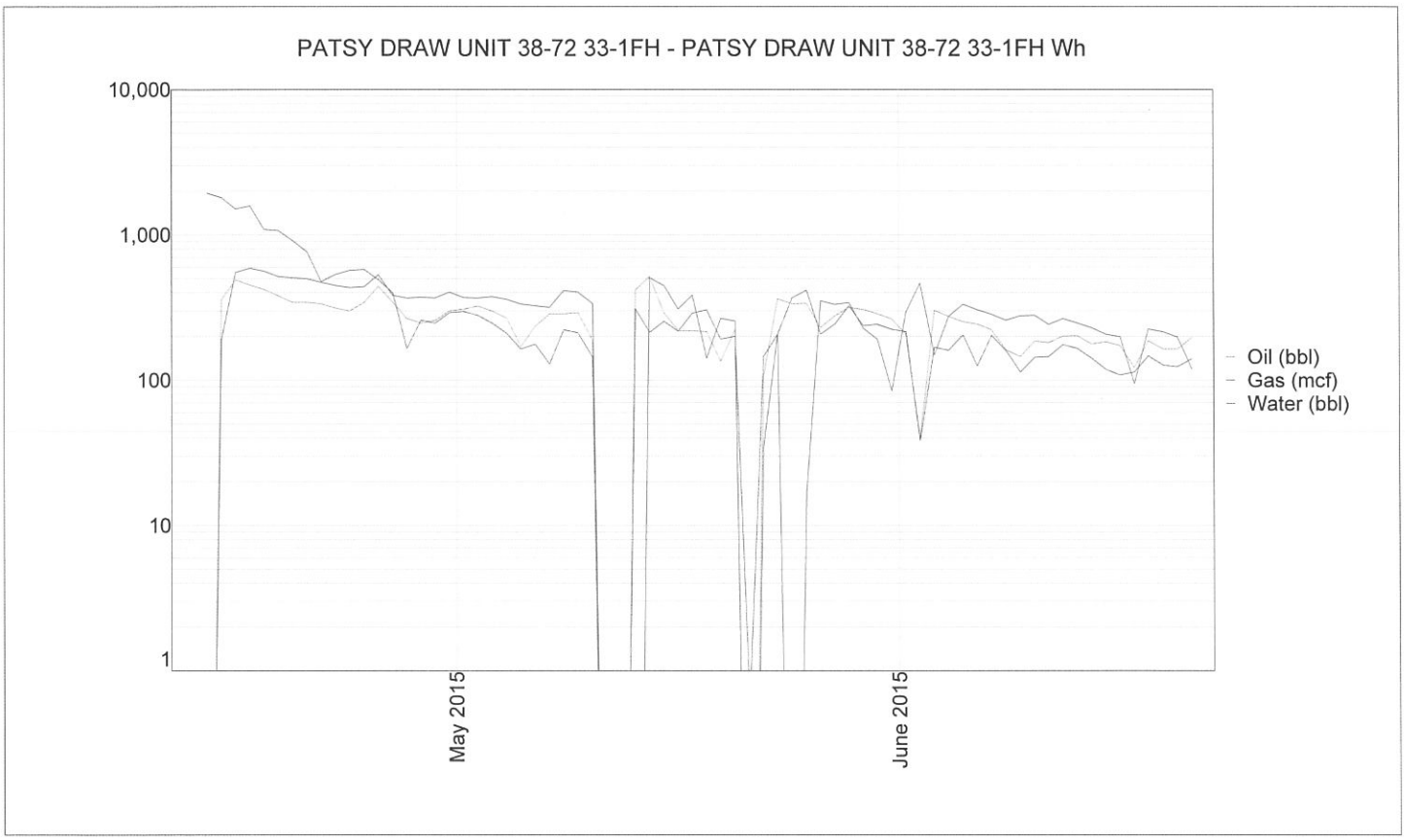
Document Path: Y:\TransformedData\RKI\mxd\FedPackage\MapC\PATSY DRAW UNIT 38-72 33-1FH MAP C (REV 1).mxd

Date: 6/23/2015
Time: 9:40 AM

Daily Production Report

PATSY DRAW UNIT 38-72 33-1FH - PATSY DRAW UNIT 38-72 33

Selected Time Frame: 05/13/2015 - 06/11/2015



Daily Production

Date	Oil	Gas	Water
06/11/2015	180.87	241	144.98
06/10/2015	185.45	279	143.33
06/09/2015	145.03	277	113.36
06/08/2015	161.28	258	159.98
06/07/2015	221.71	284	203.32
06/06/2015	243.38	305	125.03
06/05/2015	252.13	332	204.97
06/04/2015	274.22	274	160.03
06/03/2015	302.56	149	168.34
06/02/2015	40.01	463	38.31
06/01/2015	206.29	294	215.02
05/31/2015	263.39	84	223.32
05/30/2015	286.31	191	241.63
05/29/2015	305.89	228	236.71
05/28/2015	316.31	342	325.02
05/27/2015	276.31	332	243.31
05/26/2015	230.46	352	206.66
05/25/2015	337.98	17	414.98
05/24/2015	335.07	-19	366.68
05/23/2015	362.16	207	206.66
05/22/2015	106.69	35	145.03

Notes
<DT> = Down Time
<GM> = Gas Meter

Date: 6/23/2015
Time: 9:40 AM

Daily Production Report

PATSY DRAW UNIT 38-72 33-1FH - PATSY DRAW UNIT 38-72 33

Selected Time Frame: 05/13/2015 - 06/11/2015

Daily Production

Date	Oil	Gas	Water
05/21/2015	0.00	0	0.61
05/20/2015	222.54	255	200.04
05/19/2015	135.03	266	191.68
05/18/2015	215.88	141	304.98
05/17/2015	217.96	384	288.34
05/16/2015	219.21	309	216.66
05/15/2015	290.06	447	253.36
05/14/2015	516.77	507	213.30
05/13/2015	416.75	0	308.35
Total:	7,267.70	7,231	6,263.99
Average:	242.26	241	208.80

Notes
<DT> = Down Time
<GM> = Gas Meter

RKI Exploration & Production, LLC
Patsy Draw 38-72-33 1FH
nw ne 33, T38N, R72W
Converse County, Wyoming

Heater Treater (HTR01)

Run time (hrs): 8,760
Burner Size: 0.500 MMBtu/hr
Fuel Heat Value: 1,020 btu/scf

	Potential Emissions (tpy)									
	NOx	CO	VOC	SO2	PM10	H2S	HAPs	CO2	Methane	N20
HTR-1	0.21	0.18	0.01	0.00	0.02	0.00	0.00	257.65	0.00	0.00

	Potential Emissions (lb/hr)									
	NOx	CO	VOC	SO2	PM10	H2S	HAPs	CO2	Methane	N20
HTR-1	0.049	0.041	0.001	0.00	0.004	0.000	0.000	58.8235294	0.00112745	0.00107843

Emission Factors (AP42 1.4 - Natural Gas Combustion)

	lb/MMscf	lb/MMBtu	
NOx	100	0.09803922	AP-42 Table 1.4-1
CO	84	0.08235294	AP-42 Table 1.4-1
VOC	5.5	0.00539216	AP-42 Table 1.4-2
PM	7.6	0.00745098	AP-42 Table 1.4-2
SO2	0.60	0.00058824	AP-42 Table 1.4-2
CO2	120000	117.647059	AP-42 Table 1.4-2
Methane	2.3	0.0022549	AP-42 Table 1.4-2
N2O	2.2	0.00215686	AP-42 Table 1.4-2

```
*****************************************************************************************
*     Project Setup Information                                                         *
*****************************************************************************************
Project File              : M:\Users\JIngerson\Wyoming Air Applications\Patsy Draw Unit 38-72-33 1FH\Oil F
Flowsheet Selection       : Oil Tank with Separator
Calculation Method        : RVP Distillation
Control Efficiency        : 98.0%
Known Separator Stream    : Low Pressure Oil
Entering Air Composition  : No

Filed Name                : Patsy Draw Unit
Well Name                 : Patsy Draw Unit 38-72-33 1FH Oil Tank Flash
Well ID                   : 49-009-30289
Permit Number             : WDEQ Application Submital
Date                      : 2015.06.25


*****************************************************************************************
*     Data Input                                                                        *
*****************************************************************************************

Separator Pressure        : 50.00[psig]
Separator Temperature     : 125.00[F]
Ambient Pressure          : 12.14[psia]
Ambient Temperature       : 55.00[F]
C10+ SG                   : 0.8237
C10+ MW                   : 235.03

-- Low Pressure Oil ------------------------------------------------------------------
   No.     Component            mol %
   1       H2S                  0.0000
   2       O2                   0.0000
   3       CO2                  0.0238
   4       N2                   0.0555
   5       C1                   0.3630
   6       C2                   1.0631
   7       C3                   3.9325
   8       i-C4                 1.2921
   9       n-C4                 5.1099
   10      i-C5                 3.1839
   11      n-C5                 4.2937
   12      C6                   3.2020
   13      C7                   7.1390
   14      C8                   6.3438
   15      C9                   2.6286
   16      C10+                53.7695
   17      Benzene              0.3106
   18      Toluene              1.8976
   19      E-Benzene            0.5650
   20      Xylenes              1.5237
   21      n-C6                 2.8280
   22      224Trimethylp        0.4747

-- Sales Oil -------------------------------------------------------------------------
Production Rate           : 145[bbl/day]
Days of Annual Operation  : 365 [days/year]
API Gravity               : 39.0
Reid Vapor Pressure       : 5.50[psia]


*****************************************************************************************
*     Calculation Results                                                               *
*****************************************************************************************

-- Emission Summary ------------------------------------------------------------------
Item               Uncontrolled   Uncontrolled   Controlled     Controlled
```

	[ton/yr]	[lb/hr]	[ton/yr]	[lb/hr]
Total HAPs	1.820	0.416	0.036	0.008
Total HC	164.212	37.491	3.284	0.750
VOCs, C2+	161.551	36.884	3.231	0.738
VOCs, C3+	146.954	33.551	2.939	0.671

Uncontrolled Recovery Info.

Vapor	7.3300	[MSCFD]
HC Vapor	7.2600	[MSCFD]
GOR	50.55	[SCF/bbl]

-- Emission Composition ----------

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]	Controlled [ton/yr]	Controlled [lb/hr]
1	H2S	0.000	0.000	0.000	0.000
2	O2	0.000	0.000	0.000	0.000
3	CO2	0.479	0.109	0.479	0.109
4	N2	0.710	0.162	0.710	0.162
5	C1	2.661	0.608	0.053	0.012
6	C2	14.597	3.333	0.292	0.067
7	C3	73.988	16.892	1.480	0.338
8	i-C4	14.826	3.385	0.297	0.068
9	n-C4	35.993	8.218	0.720	0.164
10	i-C5	8.345	1.905	0.167	0.038
11	n-C5	8.077	1.844	0.162	0.037
12	C6	1.861	0.425	0.037	0.008
13	C7	1.510	0.345	0.030	0.007
14	C8	0.459	0.105	0.009	0.002
15	C9	0.073	0.017	0.001	0.000
16	C10+	0.001	0.000	0.000	0.000
17	Benzene	0.121	0.028	0.002	0.001
18	Toluene	0.230	0.053	0.005	0.001
19	E-Benzene	0.025	0.006	0.001	0.000
20	Xylenes	0.057	0.013	0.001	0.000
21	n-C6	1.295	0.296	0.026	0.006
22	224Trimethylp	0.093	0.021	0.002	0.000
	Total	165.401	37.763	3.308	0.755

-- Stream Data ----------

No.	Component	MW	LP Oil mol %	Flash Oil mol %	Sale Oil mol %	Flash Gas mol %	W&S Gas mol %	Total Emissions mol %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0238	0.0102	0.0000	0.6908	0.1745	0.3080
4	N2	28.01	0.0555	0.0034	0.0000	2.6094	0.0589	0.7182
5	C1	16.04	0.3630	0.0676	0.0000	14.8525	1.1571	4.6976
6	C2	30.07	1.0631	0.6174	0.0006	22.9266	10.5506	13.7501
7	C3	44.10	3.9325	3.3199	0.2818	33.9871	52.2463	47.5259
8	i-C4	58.12	1.2921	1.2244	0.7953	4.6117	8.1361	7.2250
9	n-C4	58.12	5.1099	4.9523	4.0690	12.8412	19.1786	17.5402
10	i-C5	72.15	3.1839	3.1888	3.1762	2.9432	3.3923	3.2762
11	n-C5	72.15	4.2937	4.3222	4.3877	2.8954	3.2671	3.1710
12	C6	86.16	3.2020	3.2554	3.4176	0.5801	0.6442	0.6276
13	C7	100.20	7.1390	7.2763	7.6999	0.4037	0.4537	0.4408
14	C8	114.23	6.3438	6.4710	6.8652	0.1057	0.1211	0.1172
15	C9	128.28	2.6286	2.6819	2.8473	0.0142	0.0176	0.0167
16	C10+	235.03	53.7695	54.8655	58.2724	0.0001	0.0001	0.0001
17	Benzene	78.11	0.3106	0.3161	0.3329	0.0404	0.0450	0.0438
18	Toluene	92.13	1.8976	1.9350	2.0506	0.0644	0.0730	0.0708
19	E-Benzene	106.17	0.5650	0.5764	0.6118	0.0059	0.0068	0.0066
20	Xylenes	106.17	1.5237	1.5545	1.6500	0.0137	0.0159	0.0153
21	n-C6	86.18	2.8280	2.8776	3.0292	0.3924	0.4372	0.4256
22	224Trimethylp	114.24	0.4747	0.4839	0.5125	0.0212	0.0238	0.0231
	MW		164.69	167.21	174.56	41.14	48.84	46.85
	Stream Mole Ratio		1.0000	0.9800	0.9227	0.0200	0.0573	0.0773
	Heating Value	[BTU/SCF]				2295.46	2762.24	2641.57
	Gas Gravity	[Gas/Air]				1.42	1.69	1.62

Bubble Pt. @ 100F	[psia]	39.65	20.52	6.29
RVP @ 100F	[psia]	16.29	12.62	5.56
Spec. Gravity @ 100F		0.720	0.722	0.725

```
*****************************************************************************************
*     Project Setup Information                                                         *
*****************************************************************************************
Project File              : M:\Users\JIngerson\Wyoming Air Applications\Patsy Draw Unit 38-72-33 1FH\Water
Flowsheet Selection       : Oil Tank with Separator
Calculation Method        : RVP Distillation
Control Efficiency        : 98.0%
Known Separator Stream    : Low Pressure Oil
Entering Air Composition  : No

Filed Name                : Patsy Draw Unit
Well Name                 : Patsy Draw Unit 38-72-33 1FH Water Tank Flash w/ 1% Oil
Well ID                   : 49-009-30289
Permit Number             : WDEQ Application Submital
Date                      : 2015.06.26


*****************************************************************************************
*     Data Input                                                                        *
*****************************************************************************************

Separator Pressure        : 50.00[psig]
Separator Temperature     : 125.00[F]
Ambient Pressure          : 12.14[psia]
Ambient Temperature       : 55.00[F]
C10+ SG                   : 0.8237
C10+ MW                   : 235.03

-- Low Pressure Oil ---------------------------------------------------------------------
   No.     Component             mol %
   1       H2S                   0.0000
   2       O2                    0.0000
   3       CO2                   0.0238
   4       N2                    0.0555
   5       C1                    0.3630
   6       C2                    1.0631
   7       C3                    3.9325
   8       i-C4                  1.2921
   9       n-C4                  5.1099
   10      i-C5                  3.1839
   11      n-C5                  4.2937
   12      C6                    3.2020
   13      C7                    7.1390
   14      C8                    6.3438
   15      C9                    2.6286
   16      C10+                 53.7695
   17      Benzene               0.3106
   18      Toluene               1.8976
   19      E-Benzene             0.5650
   20      Xylenes               1.5237
   21      n-C6                  2.8280
   22      224Trimethylp         0.4747

-- Sales Oil ----------------------------------------------------------------------------
Production Rate           : 1[bbl/day]
Days of Annual Operation  : 365 [days/year]
API Gravity               : 39.0
Reid Vapor Pressure       : 5.50[psia]


*****************************************************************************************
*     Calculation Results                                                               *
*****************************************************************************************

-- Emission Summary ---------------------------------------------------------------------
Item               Uncontrolled   Uncontrolled   Controlled     Controlled
```

	[ton/yr]	[lb/hr]	[ton/yr]	[lb/hr]
Total HAPs	0.010	0.002	0.000	0.000
Total HC	1.132	0.258	0.023	0.005
VOCs, C2+	1.114	0.254	0.022	0.005
VOCs, C3+	1.013	0.231	0.020	0.005

Uncontrolled Recovery Info.

Vapor	50.5600 x1E-3	[MSCFD]
HC Vapor	50.0400 x1E-3	[MSCFD]
GOR	50.56	[SCF/bbl]

-- Emission Composition ----------

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]	Controlled [ton/yr]	Controlled [lb/hr]
1	H2S	0.000	0.000	0.000	0.000
2	O2	0.000	0.000	0.000	0.000
3	CO2	0.003	0.001	0.003	0.001
4	N2	0.005	0.001	0.005	0.001
5	C1	0.018	0.004	0.000	0.000
6	C2	0.101	0.023	0.002	0.000
7	C3	0.510	0.116	0.010	0.002
8	i-C4	0.102	0.023	0.002	0.000
9	n-C4	0.248	0.057	0.005	0.001
10	i-C5	0.058	0.013	0.001	0.000
11	n-C5	0.056	0.013	0.001	0.000
12	C6	0.013	0.003	0.000	0.000
13	C7	0.010	0.002	0.000	0.000
14	C8	0.003	0.001	0.000	0.000
15	C9	0.001	0.000	0.000	0.000
16	C10+	0.000	0.000	0.000	0.000
17	Benzene	0.001	0.000	0.000	0.000
18	Toluene	0.002	0.000	0.000	0.000
19	E-Benzene	0.000	0.000	0.000	0.000
20	Xylenes	0.000	0.000	0.000	0.000
21	n-C6	0.009	0.002	0.000	0.000
22	224Trimethylp	0.001	0.000	0.000	0.000
	Total	1.141	0.261	0.023	0.005

-- Stream Data ----------

No.	Component	MW	LP Oil mol %	Flash Oil mol %	Sale Oil mol %	Flash Gas mol %	W&S Gas mol %	Total Emissions mol %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0238	0.0102	0.0000	0.6908	0.1745	0.3080
4	N2	28.01	0.0555	0.0034	0.0000	2.6094	0.0589	0.7182
5	C1	16.04	0.3630	0.0676	0.0000	14.8525	1.1571	4.6976
6	C2	30.07	1.0631	0.6174	0.0006	22.9266	10.5506	13.7501
7	C3	44.10	3.9325	3.3199	0.2818	33.9871	52.2463	47.5259
8	i-C4	58.12	1.2921	1.2244	0.7953	4.6117	8.1361	7.2250
9	n-C4	58.12	5.1099	4.9523	4.0690	12.8412	19.1786	17.5402
10	i-C5	72.15	3.1839	3.1888	3.1762	2.9432	3.3923	3.2762
11	n-C5	72.15	4.2937	4.3222	4.3877	2.8954	3.2671	3.1710
12	C6	86.16	3.2020	3.2554	3.4176	0.5801	0.6442	0.6276
13	C7	100.20	7.1390	7.2763	7.6999	0.4037	0.4537	0.4408
14	C8	114.23	6.3438	6.4710	6.8652	0.1057	0.1211	0.1172
15	C9	128.28	2.6286	2.6819	2.8473	0.0142	0.0176	0.0167
16	C10+	235.03	53.7695	54.8655	58.2724	0.0001	0.0001	0.0001
17	Benzene	78.11	0.3106	0.3161	0.3329	0.0404	0.0450	0.0438
18	Toluene	92.13	1.8976	1.9350	2.0506	0.0644	0.0730	0.0708
19	E-Benzene	106.17	0.5650	0.5764	0.6118	0.0059	0.0068	0.0066
20	Xylenes	106.17	1.5237	1.5545	1.6500	0.0137	0.0159	0.0153
21	n-C6	86.18	2.8280	2.8776	3.0292	0.3924	0.4372	0.4256
22	224Trimethylp	114.24	0.4747	0.4839	0.5125	0.0212	0.0238	0.0231
	MW		164.69	167.21	174.56	41.14	48.84	46.85
	Stream Mole Ratio		1.0000	0.9800	0.9227	0.0200	0.0573	0.0773
	Heating Value	[BTU/SCF]				2295.46	2762.24	2641.57
	Gas Gravity	[Gas/Air]				1.42	1.69	1.62

Bubble Pt. @ 100F	[psia]	39.65	20.52	6.29
RVP @ 100F	[psia]	16.29	12.62	5.56
Spec. Gravity @ 100F		0.720	0.722	0.725

RKI Exploration & Production, LLC
Patsy Draw 38-72-33 1FH
nw ne 33, T38N, R72W
Converse County, Wyoming

Oil Loadout

Source ID Number:	OIL LOAD-1	Model:	Liquid Loading
Name	Oil Truck Loadout		
		Throughput Value (gal/yr):	2222850
Liquid Temperature (°F):	55	Molecular Weight (lb/lb-mole):	40.14
Vapor Pressure (psia)	5.56	Saturation Factor:	0.6
Hours Per Day:	24	Days Per Year:	365
Load Frequency (trucks/yr):	223	Load Duration (min/truck):	60.00

Loading Loss (lb/1000 gal) = (12.46*S*P*M)/ T (AP-42 Section 5.2 (1/95)) where:

S = Saturation Factor = dedicated normal service
P = True Vapor Pressure of liquid loaded*, psia
M = Molecular Weight of Vapors, lb/lb-mole
T = Temp. of bulk liquid loaded, deg. R = (deg. F + 460)

Loading Loss (lb VOC/1000 gal) = 3.24 lb/1000 gal

Uncontrolled Emissions

Pollutant	Loading Loss (lb/1000 gal)	Throughput (gal/yr)	Estimated Emissions (lb/yr)	Estimated Emissions (tpy)	Source of Emission Factor
VOC	3.24	2222850	7201.07	3.60	AP42
			0.8220 lb/hr		

Controlled Emissions

Pollutant	Loading Loss (lb/1000 gal)	Throughput (gal/yr)	Estimated Emissions (lb/yr)	Estimated Emissions (tpy)	Source of Emission Factor
VOC	0.06	2222850	144.02	0.07	Combustor specs
			0.0164 lb/hr		

RKI Exploration & Production, LLC
Patsy Draw 38-72-33 1FH
nw ne 33, T38N, R72W
Converse County, Wyoming

Water Loadout

Source ID Number:	WATER LOAD-1		
Name	Water Truck Loadout		
Throughput Value (gal/yr):	15,330 (assumed 1% oil in water is source of emissions)		
Liquid Temperature (°F):	55	Molecular Weight (lb/lb-mole):	40.14
Vapor Pressure (psia)	5.56	Saturation Factor:	0.6
Hours Per Day:	24	Days Per Year:	365
Load Frequency (trucks/yr):	2	Load Duration (min/truck):	60.00

Loading Loss (lb/1000 gal) = (12.46*S*P*M)/ T (AP-42 Section 5.2 (1/95)) where:

S = Saturation Factor = dedicated normal service
P = True Vapor Pressure of liquid loaded*, psia
M = Molecular Weight of Vapors, lb/lb-mole
T = Temp. of bulk liquid loaded, deg. R = (deg. F + 460)

Loading Loss (lb VOC/1000 gal) = 3.24 lb/1000 gal

Uncontrolled Emissions

Pollutant	Loading Loss (lb/1000 gal)	Throughput (gal/yr)	Estimated Emissions (lb/yr)	Estimated Emissions (tpy)	Source of Emission Factor
VOC	3.24	15330	49.66	0.02	AP42
			0.0057	lb/yr	

Controlled Emissions

Pollutant	Loading Loss (lb/1000 gal)	Throughput (gal/yr)	Estimated Emissions (lb/yr)	Estimated Emissions (tpy)	Source of Emission Factor
VOC	0.06	15330	0.99	0.00	Combustor specs
			0.0001	lb/yr	

RKI Exploration & Production, LLC
LP Flare
Patsy Draw Unit 38-72-33 1FH

Equipment ID	FLR-1
Source Description	Low Pressure Flare for Tank Emissions
Make/Model	Steffes SVG-3 Low Pressure Flare

Pilot	Spark	
Separator Gas HV	**2,295**	Btu/scf (inlet gas stream)
Gas Fuel	**305**	scf/hr from tank vent
NMNE VOC Gas wt	30.86	lb/lb-mol
Gas HAP Gas wt	0.47	lb/lb-mol

VOC Destruction Efficiency **98%**

Potential Emissions from Facility Flare Emissions

Pollutant	Emission Factor (lb/MMBtu)	Emission Factor (g/hp-hr)	Nominal Rating (hp)	Hrs of Operation (hrs/yr)	Estimated Emissions Maximum (lb/hr)	Estimated Emissions Total (tpy)	Source of Emission Factor
NOx	0.140	--	NA	8760	0.10	0.43	C6 S2 Guidance
CO	0.035	--	NA	8760	0.02	0.11	C6 S2 Guidance
Total NMNE VOC	--	--	NA	8760	0.50	2.17	Gas Analysis
HAPs	--	--	NA	8760	0.01	0.03	Gas Analysis
H2S	0.32	--	NA	8760	0.000	0.00	Gas Analysis
SO2	0.00	--	NA	8760	0.00	0.00	Gas Analysis
Carbon Dioxide	116.6	-	NA	8760	81.65	357.6	Subpart C Default
Methane	0.0022	-	NA	8760	0.00	0.01	Subpart C Default

106.492(1)(D) Checklist Calculation

Heat Release (Btu/hr)	699,975.00
Allowable Minimum	0.00
Does Heat Release Meet 492 Re	**Yes**

60.18 Maximum Velocity Calculation

Flare gas Heat Value	2.42 Megajoules/scf
Net Heating Value (H_T)	85.5 MJ/scm

40 CFR §60.18(f)(6): The maximum permitted velocity, Vmax (m/sec), for air-assisted flares shall be determined by the following equation: Vmax=8.706+0.7084 (HT)

Vmax (per 60.18) **227.3 ft/sec**

RKI Exploration & Production, LLC
HP Flare
Patsy Draw Unit 38-72-33 1FH

Equipment ID	FLR-2
Source Description	High Pressure Flare for Separator/HT/Emergency Emissions
Make/Model	Steffes SHP-6 High Pressure Flare

Pilot	Spark	
Separator Gas HV	**1,448**	Btu/scf (inlet gas stream)
Gas Fuel	**6,042**	scf/hr from Separator & H/T vents (Only when gathering system is down - assume 10%)
NMNE VOC Gas wt	9.38	lb/lb-mol
Gas HAP Gas wt	0.45	lb/lb-mol

VOC Destruction Efficiency **98%**

Potential Emissions from Facility Flare Emissions

Pollutant	Emission Factor (lb/MMBtu)	Emission Factor (g/hp-hr)	Nominal Rating (hp)	Hrs of Operation (hrs/yr)	Estimated Emissions Maximum (lb/hr)	Estimated Emissions Total (tpy)	Source of Emission Factor
NOx	0.140	--	NA	876	1.22	0.54	C6 S2 Guidance
CO	0.035	--	NA	876	0.31	0.13	C6 S2 Guidance
Total NMNE VOC	--	--	NA	876	2.99	1.31	Gas Analysis
HAPs	--	--	NA	876	0.14	0.06	Gas Analysis
H2S	0.32	--	NA	876	0.000	0.00	Gas Analysis
SO2	0.00	--	NA	876	0.00	0.00	Gas Analysis
Carbon Dioxide	116.6	-	NA	876	1020.50	447.0	Subpart C Default
Methane	0.0022	-	NA	876	0.02	0.01	Subpart C Default

106.492(1)(D) Checklist Calculation

Heat Release (Btu/hr)	8,748,816.00
Allowable Minimum	0.00
Does Heat Release Meet 492 Re	**Yes**

60.18 Maximum Velocity Calculation

Flare gas Heat Value	1.53 Megajoules/scf
Net Heating Value (H_T)	54.0 MJ/scm

40 CFR §60.18(f)(6): The maximum permitted velocity, Vmax (m/sec), for air-assisted flares shall be determined by the following equation: Vmax=8.706+0.7084 (HT)

Vmax (per 60.18) **154.0 ft/sec**

RKI Exploration & Production, LLC
Robbins Unit 39-72-4 Pad Well 1FH
ne nw 46, T39N, R72W
Converse County, Wyoming

RKI Exploration & Production, LLC
Patsy Draw 38-72-33 1FH
nw ne 33, T38N, R72W
Converse County, Wyoming

Fugitive Emissions (FUG-1)

Uncontrolled Emissions

Wt Perecent Gas:	**100.00**	AMR Gas Analysis of 3/13/2015 and C6+ Breakout Analysis
Wt Percent HC:	**96.28**	AMR Gas Analysis of 3/13/2015 and C6+ Breakout Analysis
Wt Percent VOC:	**37.37**	AMR Gas Analysis of 3/13/2015 and C6+ Breakout Analysis
Wt Percent HAPs:	**1.81**	AMR Gas Analysis of 3/13/2015 and C6+ Breakout Analysis

								Leak Rate in Tons Per Year			
Equipment Type	**Gas Leak EF** lb/hr/source	**Source Count**	**Percent HC**	**Percent VOC**	**Percent HAPs**	**Operated Hours**	**Gas Rate** lb/hr	**Gas Rate** tpy	**HC Rate** tpy	**VOC Rate** tpy	**HAPs Rate** tpy
Valves	0.005420	75	96.28	37.37	1.81	8,760	0.3914	1.714	1.650	0.641	0.002
Flanges	0.000241	118	96.28	37.37	1.81	8,760	0.0274	0.120	0.115	0.045	0.000
Connectors	0.000458	124	96.28	37.37	1.81	8,760	0.0547	0.239	0.231	0.089	0.000
Other	0.016666	17	96.28	37.37	1.81	8,760	0.2728	1.195	1.150	0.446	0.001
Open Ended Lines	0.003080	-	96.28	37.37	1.81	8,760	-	-	-	-	-
Pumps	0.028750	-	96.28	37.37	1.81	8,760	-	-	-	-	-
Totals							0.746	3.268	3.147	1.221	0.003

Notes: Oil and Gas Production Operations leak emissions factors from EPA 453/R-95-017.

RKI Exploration & Production, LLC
Patsy Draw 38-72-33 1FH
nw ne 33, T38N, R72W
Flash Gas Component Analysis

Oil Tank Flash Gas Analyis from E&P TANKS 2.0 Run (06/24/2015)

Component	(1) mol %	(2) mol fraction	(3) Comp MW	(4) Gas MW	(5) HC MW	(6) VOC MW	(7) HAP MW
H2S	-	-	34.08	-			-
O2	-	-	32.00	-			
CO2	0.6908	0.0069	44.01	0.3040			
N2	2.6094	0.0261	28.01	0.7310			
C1	14.8528	0.1485	16.04	2.3827	2.3827		
C2	22.9266	0.2293	30.07	6.8938	6.8938		
C3	33.9871	0.3399	44.10	14.9870	14.9870	14.9870	
i-C4	4.6117	0.0461	58.12	2.6804	2.6804	2.6804	
n-C4	12.8412	0.1284	58.12	7.4636	7.4636	7.4636	
i-C5	2.9432	0.0294	72.15	2.1235	2.1235	2.1235	
n-C5	2.8954	0.0290	72.15	2.0890	2.0890	2.0890	
C6	0.5801	0.0058	86.18	0.4999	0.4999	0.4999	
C7	0.4037	0.0040	100.20	0.4045	0.4045	0.4045	
C8	0.1057	0.0011	114.23	0.1207	0.1207	0.1207	
C9	0.0142	0.0001	128.26	0.0182	0.0182	0.0182	
C10+	0.0001	0.0000	142.28	0.0001	0.0001	0.0001	
Benzene	0.0404	0.0004	78.11	0.0316	0.0316	0.0316	0.0316
Toluene	0.0644	0.0006	92.14	0.0593	0.0593	0.0593	0.0593
E-Benzene	0.0059	0.0001	106.17	0.0063	0.0063	0.0063	0.0063
Xylenes	0.0137	0.0001	106.17	0.0145	0.0145	0.0145	0.0145
n-C6	0.3924	0.0039	86.18	0.3382	0.3382	0.3382	0.3382
224 Trimethylpentane	0.0212	0.0002	114.24	0.0242	0.0242	0.0242	0.0242
Totals	100.0000	1.0000		41.1725	40.1375	30.8610	0.4741

Wt % HC:	**97.49**
Wt % VOCs:	**74.96**
Wt % HAPs:	**1.15**

RKI Exploration & Production, LLC
Patsy Draw 38-72-33 1FH
nw ne 33, T38N, R72W
Converse County, Wyoming

Gas Analyis from AMR Analysis (03/13/2015) & C6+ Breakout Information

Component	(1) mol %	(2) mol fraction	(3) Comp MW	(4) Gas MW	(5) HC MW	(6) VOC MW	(7) HAP MW
H2S	-	-	34.08	-			-
O2	-	-	32.00	-			
CO2	1.6240	0.0162	44.01	0.7147			
N2	0.7800	0.0078	28.01	0.2185			
C1	67.6194	0.6762	16.04	10.8475	10.8475		
C2	13.1190	0.1312	30.07	3.9448	3.9448		
C3	9.1640	0.0916	44.10	4.0410	4.0410	4.0410	
i-C4	1.1620	0.0116	58.12	0.6754	0.6754	0.6754	
n-C4	2.8670	0.0287	58.12	1.6664	1.6664	1.6664	
i-C5	0.7550	0.0076	72.15	0.5447	0.5447	0.5447	
n-C5	0.8190	0.0082	72.15	0.5909	0.5909	0.5909	
C6	1.3383	0.0134	86.18	1.1533	1.1533	1.1533	
C7	0.1440	0.0014	100.20	0.1443	0.1443	0.1443	
C8+	0.1006	0.0010	114.23	0.1149	0.1149	0.1149	
C9	-	-	128.26	-	-	-	
C10+	-	-	142.28	-	-	-	
Benzene	0.0694	0.0007	78.11	0.0542	0.0542	0.0542	0.0542
Toluene	0.0597	0.0006	92.14	0.0550	0.0550	0.0550	0.0550
E-Benzene	0.0029	0.0000	106.17	0.0031	0.0031	0.0031	0.0031
Xylenes	0.0151	0.0002	106.17	0.0160	0.0160	0.0160	0.0160
n-C6	0.3100	0.0031	86.18	0.2671	0.2671	0.2671	0.2671
224 Trimethylpentane	0.0506	0.0005	114.24	0.0578	0.0578	0.0578	0.0578
Totals	100.0000	1.0000		25.1096	24.1763	9.3841	0.4533

Wt % HC:	**96.28**
Wt % VOCs:	**37.37**
Wt % HAPs:	**1.81**

AMERICAN MOBILE RESEARCH, INC.

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CASPER, WYOMING 82604

(307) 235-4590 OFFICE PHONE
(307) 265-4489 OFFICE FAX

CERTIFICATE OF ANALYSIS
ROUTINE HYDROCARBON GAS ANALYSIS

COMPANY..... RKI EXPLORATION AND PRODUCTION

LAB NUMBER..... CR-15386
DATE SAMPLED..... 3-13-2015

STUDY NUMBER CR-3
DATE TESTED 4-17-2015

SAMPLE IDENTIFICATION..... PATSY DRAW 38-72 33-1FH

LOCATION..... DOUGLAS, WYOMING.
PRESSURE..... 60 PSIG
TYPE SAMPLE..... SPOT
CYLINDER ID..... AMR 615
SAMPLE METHOD... GPA-2166

TEMPERATURE ..... 105.53 F
SAMPLED BY ..... RKI
COUNTY ..... CONVERSE
TEST METHOD ..... GPA 2261

COMPONENTS	MOLE%		GPM
NITROGEN.....	0.780		
METHANE.....	67.614		
CARBON DIOXIDE.....	1.624		
ETHANE.....	13.119	.....	3.500
H2S.....	0.000	.....	0.000
PROPANE.....	9.164	.....	2.518
iso-BUTANE.....	1.162	.....	0.379
n-BUTANE.....	2.867	.....	0.902
iso-PENTANE.....	0.755	.....	0.275
n-PENTANE.....	0.819	.....	0.296
HEXANES+.....	2.096	.....	0.912
TOTALS.....	100.000	.....	8.782

SPECIFIC GRAVITY AT 60/60 F, calculated.....	0.86996
TOTAL GPM (ETHANE INCLUSIVE).....	8.782
CALCULATED BTU / REAL CF AT 14.73 PSIA, dry basis.....	1458.674
CALCULATED BTU / REAL CF AT 14.73 PSIA, wet basis.....	1433.549
AVERAGE MOLECULAR WEIGHT.....	25.196
MOLAR MASS RATIO.....	0.8700
RELATIVE DENSITY, (G X Z (AIR) / Z).....	0.8747
IDEAL GROSS HEATING VALUE, BTU / IDEAL CF AT 14.696 PSIA.....	1447.507
COMPRESSIBILITY FACTOR (Z).....	0.99463

NOTE: ABOVE CALCULATIONS PERFORMED USING PHYSICAL CONSTANTS FROM GPA 2145-09. THE HEXANES+ (C6+) FACTORS ARE CALCULATED AS A RATIO AMOUNT OF HEXANES (60%), HEPTANES (30%), AND OCTANES (10%).

James A. Kane, President
American Mobile Research, Inc.

Patsy Draw 38-72-33 1FH
Frontier Gas Analysis of 3/13/2015

C6+ Total:	**2.0960**

Component	C6+ Factor	mole %
Other C6	0.6385	1.3383
n-C6	0.1479	0.3100
C7	0.0687	0.1440
C8+	0.0480	0.1006
2,2,4 Trimethyl Pentane	0.0267	0.0560
Benzene	0.0331	0.0694
Toluene	0.0285	0.0597
Ethylbenzene	0.0014	0.0029
Xylenes	0.0072	0.0151
		2.0960